



Patent
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Masao MATSUOKA et al.

Application No.: 10/667,359

Filed: September 23, 2003

For: METHOD TO PROTECT
TRANSGENES FROM SILENCING

Group Art Unit: 1638

Examiner: C. Qian

Confirmation No.: 9190

DECLARATION UNDER 37 C.F.R. §1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

1. We, Masao MATSUOKA and Koji AKASAKA, declare the following:
2. Masao MATSUOKA is a citizen of Japan, and has the following mailing address: Doginosato 4-13-5-204, Otsu 520-0246, JAPAN.
3. Koji AKASAKA is a citizen of Japan, and has the following mailing address: Uehara 3-17-15-202, Shibuya-Ku, Tokyo 157-0066, JAPAN.
4. The subject matter of Hino et al., Blood 2002, Vol. 100, No. 11, Abstract No. 5522 (Hino et al.) was derived from our own inventive work;
5. Shinjiro HINO, Pan JUN, and Shuhei TAGUWA are merely co-authors of Hino et al. and did not have a role in inventing the subject matter of Hino et al.;
6. Shinjiro HINO, Pan JUN, and Shuhei TAGUWA were working as graduate students under the direction and supervision of Masao MATSUOKA;
7. We are the only inventors of the invention disclosed and claimed in the above-identified application;

8. Shinjiro HINO, Pan JUN, and Shuhel TAGUWA are not co-inventors of the invention disclosed and claimed in the above-identified application;

9. We further declare that all statements made herein of our own knowledge are true and that all statements on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful statements may jeopardize the validity of the application or any patent issuing thereon.

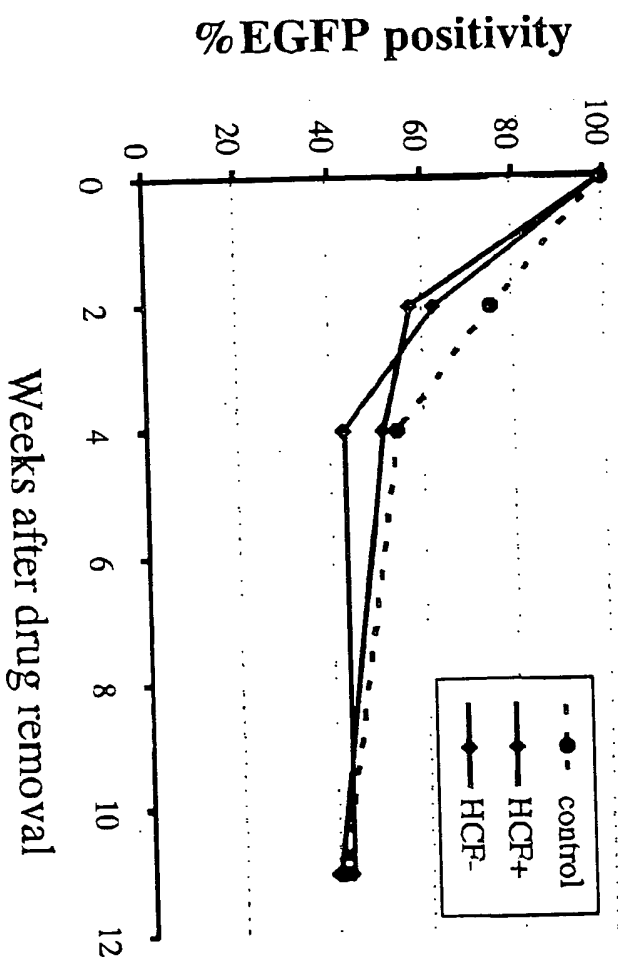
Date: Oct 24, 2006

By: 
Masao MATSUOKA

Date: Oct. 20, 2006

By: 
Koji AKASAKA

**HCF1, which showed enhancer blocking activity,
does not show anti-silencing effect**



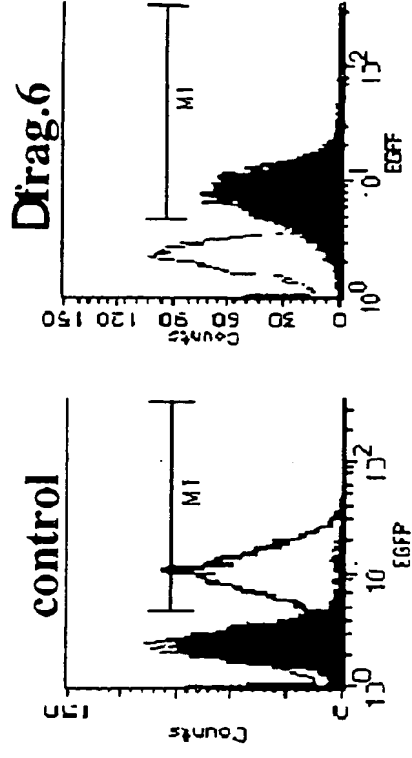
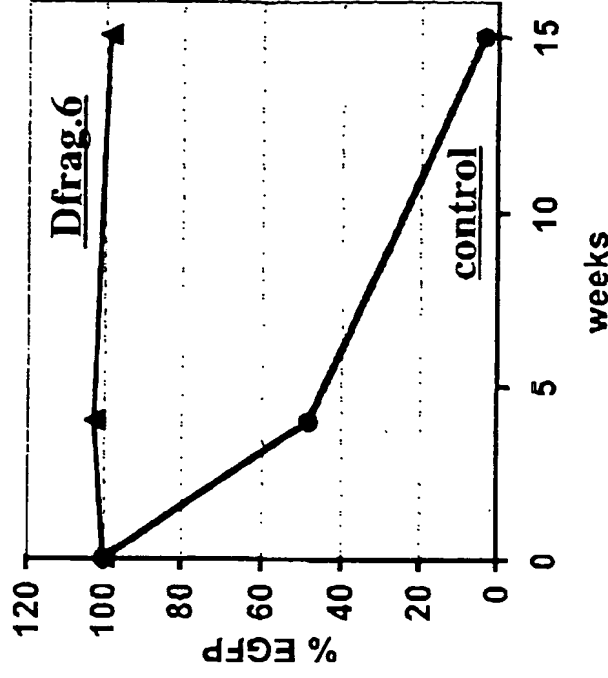
Anti-silencing effect by deleted Ars insulator

Fragment 6-deleted Ars

Enhancer blocking activity diminished by deletion of fragment 6.

GGGAGCAGAACCCCTGTAGCTCAGGGTTTTA
GGCGTTAATTACGGTCAGATGAGCAATTTTGAT
ACCTTAATTTGTGTGACACTGCTAGTAACTATT
CATTCTTTCTTGCTCTCTTGCTTTCTATTCTCTTT
AAATGCTTTTCCAAAGAAATGGGGGGGGGGC
TGGACGCTCCCGAACCCGACGTTCCGCGGGCCC
TGACATGTAAAGCATCTCAAGACATATTTCTTGC
CT

(GGCTGTAAATTACAAACGCATAAAAAAATATA
ATTTACTAAAGAAATGAGGAAATCTCGGG)
AAGTTATGTAATTTTCAGCATATATGTGAACCAACC
GTTATGGAATAAGAAATAAACCAATTTCAATTTA
TTTCCCCCGAGCCCCCTCCCGATCAATACGCC
AGTGCCCCCGCCCCCGCTCCCGATCTACACT
TTGTTGGCGGAAATAATCGCAACTGATCTCCCCCT
ACCTTTCTTCTTCTCTTTCCCTTGCTCTCCTCTTA
CCCTTTCCCTTCCCAACCCCTTCTCCCAACTTGTT
GGCGGGATTACCTGCAAAATTATC



Relationship between anti-silencing effect and enhancer blocking effect

	Enhancer blocking	Anti-silencing
Ars $\Delta 6$	—	+
HCF1	+	—
5-32	+	+